



Developing a benefits counseling website for Veterans using Motivational Interviewing techniques



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ABSTRACT

Understanding Veterans' narrated experience as they navigate a web-based intervention is important because it can inform the content, layout and format of these therapies. Using the "Think Aloud" method, twenty-five Veterans of military service expressed thoughts and reactions while navigating through a web-based Motivational Interviewing intervention. The intervention encouraged Veterans applying for Compensation for military-related psychiatric conditions to engage in work related activities. They then completed quantitative ratings of the site. Overall, the site was rated highly, and ratings were in the neutral range as to whether internet delivery of the material was preferable to in-person counseling. Comments revealed the complexity of adapting Motivational Interviewing for a web-based intervention. The intervention provided reflections and non-judgmental statements to Veterans accustomed to more directive statements, and receiving reflections from a computer-therapist evoked mixed responses. Veterans answered questions with intuitive formats quickly, and usually did not read directions concerning how to answer questions. Veterans felt frustrated by the lack of support throughout the Compensation process. They advocated for further development of this web-based intervention as a support for people awaiting their claim determination.

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1. Introduction

Automated counseling delivered remotely via the internet, a computer or mobile phone, can be available to people who have difficulties coming to an in-person appointment and allows for private, customized delivery of evidence-based treatments (Carroll & Rounsaville, 2010; Griffiths, Lindenmeyer, Powell, Lowe, & Thorogood, 2006). There have been web-based behavioral interventions designed specifically for Veterans targeting a variety of conditions (Brief, Rubin, Enggasser, Roy, & Keane, 2011; Kinsinger et al., 2009; Lapham et al., 2012; Newton, Han, Stewart, Ryan, & Williamson, 2011; Possemato, Ouimette, & Knowlton, 2011). Some researchers have described the iterative process by which they developed online counseling interventions (Houston & Ford, 2008; Zulman et al., 2012), but few have detailed the development of automated counseling specifically for Veterans (Anderson, Willson, Peterson, Murphy, & Kent, 2010).

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Counseling employing a Motivational Interviewing (MI) approach has been automated in several published studies. MI involves a particular empathic, non-judgmental stance, with an emphasis on dealing with ambivalence. The counselor understands that ambivalence and resistance are a natural part of the change process and use evocative questions to elicit "change talk." In order to facilitate change, the counselor uses reflective listening and, when clients are ready to change, helps the individual plan concrete steps to change the behavior (Miller & Rollnick, 2002). Web-based programs which include MI may focus on assessing readiness to change, determining stage of change and then providing feedback on the stage (DiIorio et al., 2008; Lapham et al., 2012; Ondersma, Chase, Svikis, & Schuster, 2005). Other programs measure confidence in ability to change, either in place or in addition to the readiness assessment (Cucciare, Darrow, & Weingardt, 2011; Osilla, D'Amico, Díaz-Fuentes, & Watkins, 2012). There is little literature, however, describing how MI techniques that depend on tone, empathy, tailoring and encouraging people to disclose their resistance to change are experienced when delivered by a computer.

Think Aloud (Willis, 2005) procedures are often part of usability testing of new web-based programs to illuminate how users receive them (Anderson et al., 2010; Lapham et al., 2012). In this

commonly-employed procedure, participants speak out loud what they are thinking as they navigate a website. One study utilizing the Think Aloud method for a Veteran-focused website assessed problem drinking (Lapham et al., 2012). Veterans felt it was helpful to have their drinking behaviors presented back to them and appreciated the anonymity the program provided. However, some Veterans believed the program overestimated the risks of their drinking and felt judged by being placed in riskier categories than they felt they belonged in (Lapham et al. (2012).

In this paper, we describe the results of a Think Aloud evaluation of a website designed to deliver a web-based version of a MI counseling intervention. We then make general suggestions for web-based counseling programs that incorporate MI or are targeted to Veterans.

2. Method

Veterans were eligible if they were between the ages 18 and 65, had a pending Compensation claim for psychiatric conditions worsened by military service and had access to the internet. Recruitment took place at the Compensation and Pension office where Veterans were introduced to a research assistant by Compensation and Pension staff. Twenty-five Veterans provided written informed consent for participation.

During the first office visit, participants completed a series of assessments. They were then given a unique log-in for the Benefits Counseling website and narrated their thoughts aloud while navigating through the first two sessions of the web-based counseling; their comments were audio taped. Twenty-three of the 25 participants returned approximately a week later to complete the third counseling session while thinking aloud.

As Veterans navigated the website, the lead author instructed Veterans to think out loud. They were specifically encouraged to talk about aspects of the session and each screen they liked or didn't like. For participants who were engaged in activities on the website but not actively thinking aloud, verbal prompts were utilized. Verbal prompts were sometimes delivered in response to the Veterans' behavior (e.g. a Veteran being quiet, looking puzzled, or taking a long pause) (Willis, 2005). At the end of the second interview, each Veteran was asked for his/her overall thoughts about the program and what, if anything should be changed.

2.1. Description of web-based counseling modules

The website evaluated in this study was designed to help Veterans applying for Compensation engage in work and related activities. The counseling involved three discrete sessions using both didactic and interactive features. Successive screens conveyed information, showed videos, or asked questions to advance to the "Next" screen. To simulate the flow of a counseling session, screens often incorporated information from Veterans' prior answers. For example, the program asked Veterans about their employment status and follow up prompts were modified to fit that current status. There was no specific avatar, but the responses were meant to simulate a conversation with the participating Veteran through reflective statements printed to appear as speech. The program delivered a Benefits Counseling intervention, in that it educated the Veteran about the financial implications and opportunities to work while applying for Compensation. It included brief videos of Veterans who worked while still receiving Compensation.

To temper and make more palatable the implied exhortations to work, this site utilized a MI stance with open-ended questions, reflections of Veterans' responses back to them, and a non-judgmental tone. Specific MI techniques included conducting a

Values Card Sort activity to rank work vis a vis other priorities, listing pros and cons of working, and deconstructing Veterans' ratings of importance/confidence related to work using a "readiness ruler" (Miller & Rollnick, 2002). Veterans were encouraged to construct an "action plan" for activities, such as searching for a job or engaging in treatment.

2.2. Measures

Prior to the Think Aloud protocol, demographics were collected. At the conclusion of the Think Aloud task, Veterans assessed the intervention by rating the following on a Likert-scale: program's layout, ease of use, helpfulness, whether the Veteran preferred website or in-person counseling, and whether the Veteran would recommend this program to someone else. A modified version of the *Working Alliance Inventory* (WAI) (Horvath & Greenberg, 1989) was also collected. The WAI is a self-report measure of the therapeutic alliance a client feels with his/her clinician. It contains three subscales reflecting bond with therapist, agreement with the therapeutic tasks and agreement on goals. An adapted version was used, replacing "clinician" wording with language reflecting an alliance with the computer program.

2.3. Data analysis

All quantitative analyses were conducted with SPSS 19. Baseline characteristics of Veterans were summarized with descriptive statistics. Composite and subscale scores were computed for the WAI (Horvath & Greenberg, 1989). Think Aloud data were analyzed by applying principles of content analysis (Hsieh & Shannon, 2005) by two members of the research team. In brief, transcripts of audio taped interviews and additional notations taken during the Think Aloud were initially read through once without being coded. Transcripts were then read and reread several times to identify and ensure the overall themes were accurate.

3. Results

Ninety-two percent (23/25) of the Veterans who participated in this pilot were male with a mean age of 39.6 (SD = 11.06) and an average of 13.2 (SD = 2.06) years of education. Sixty-four percent (16/25) were Caucasian, 16% (N = 4) were Hispanic, 12% (N = 3) were African American, and 8% (N = 2) were Other. The majority of Veterans were not currently married: 32% (N = 8) had never married, 28% (N = 7) were divorced, 16% (N = 4) were separated, and only 24% (N = 6) were married. In the past 12 months, 24% (N = 6) described themselves as having predominantly worked full time, 24% (N = 6) were active military, 24% (N = 6) were unemployed, 24% (N = 6) were disabled, and 4% (N = 1) worked part-time. Additionally, Veterans had spent an average of 7.5 years on active military duty (SD = 7.8 years) with a total of 76% (N = 19) having been in combat.

As indicated by the mean WAI scores (Table 1), Veterans felt a strong alignment of their goals with those of the program, agreement on what tasks they were working on and a solid bond to the program. They rated the site's navigability and individual features highly; however, Veterans were overall neutral regarding their preference of this material delivered in-person or via computer (Table 1).

The qualitative information collected from the Think Aloud procedure yielded individual themes that were combined into three larger domains. The names listed below have been changed to protect participants' confidentiality.

Table 1
Veterans' ratings of web-delivered therapy processes.

Variable	Mean (SD)
<i>Working Alliance Inventory^a</i>	
Composite	5.75 (.73)
Task subscale	5.92 (.75)
Goal subscale	5.61 (.81)
Bond subscale	5.74 (.78)
<i>Veteran Feedback^a</i>	
Liked layout	5.61 (1.03)
Easy to navigate	5.96 (.98)
Topics relevant to personal situation	5.74 (1.05)
Easy to understand material	6.17 (.72)
Preference for web-based vs. in-person	3.70 (1.87)
Would recommend program to others	5.87 (1.06)

^a Item responses range from 1 to 7.

3.1. Aspects of computer-adapted Motivational Interviewing were problematic

Veterans didn't always understand the purpose of the MI tasks. Many felt the MI readiness rulers were discouraging, as described by Leonard, a Navy Veteran in his mid 20s, who was puzzled by this approach: "Why am I less confident? Should I be less confident?...if anything you should be asking me why I'm not more confident."

Nick, an active duty Naval service member in his mid 20s, illustrates the confusion Veterans expressed while he completed the Value Card Sort in which he ranked work vis a vis other priorities:

"You understand what your values are but most of it is like family and stuff that doesn't really apply to whether you're going to get a job. Developing your talents and abilities you can in a job or you can do that not in a job...I mean after you answer all the questions you don't really understand why you answered them or what the point was. So maybe a clearer summary...like if this is what's important to you then what are you going to do now?..."

3.1.1. Writing and explaining responses

Veterans also expressed strong feelings one way or another about the interactive questions that asked them to type out narrative explanations of their prior answers. Many liked the idea of being able to express themselves. Rob, an Army Veteran in his early 20s, stated: "...I mean I guess I never really thought about it why it was important so I guess that's good." However, others found this a difficult exercise to complete as described by Miguel: "It's hard to come up with reasons a lot of times it's...just a feeling. How do you put a feeling into words?"

3.1.2. Reflections ("pop-ups")

Another aspect of MI that Veterans had differing opinions about were the reflections the computer offered that essentially reworded the Veterans' answers. Some Veterans appreciated the feedback, such as Frank, a male in his late 30s who served in the Marines: "That's cool. I like the little pop-up". However, others did not think the reflections were useful and shared similar thoughts as Amy, a female in her mid-30s who served in the Marines: "Ok these little pop-ups are really annoying...you do the little click on this and it pops up with the little clarification thing. That's annoying...cause you're not having a conversation with a computer."

3.1.3. Broad questions about work

A key feature of MI is that questions are generally broad and open-ended. John is an Army Veteran who struggled adjusting into

civilian life. He reported experiencing difficulty with cocaine and periods of homelessness that he attributes to post-traumatic stress. He expressed discontent with the wording of the question, "What are the good things about work?":

"...I feel funny about these answers because the underlying thing that need to be more specific- it depends on what you are doing. I mean even if you don't have a mental disability you know coming up, because I had to have a job, there were jobs that I took that I didn't like."

3.2. Navigational issues

Directions were included at the top of each slide but many Veterans did not read them. Veterans answered questions intuitively, without considering the instructions, unless the website stymied their attempted navigation. Veterans also wanted a back button to help with navigating the site. The lack of a back button was particularly bothersome when follow-up questions made Veterans want to change their initial responses, as expressed by 0019: "If someone wants to change an answer...do they have to go through the whole module and redo it?..."

3.3. Site environment

3.3.1. Beneficial program for those pending Compensation

Overall, Veterans felt the program could be beneficial for Veterans pending Compensation. These sentiments were clearly articulated by John: "...it's good that you guys are doing these type of studies so you can look into this and possibly make it better for the guys who are coming home..." and by Matt, a Marine Veteran in his mid 50s, "Well it was good. I hope it helps me and other Veterans like me...You know it's good to have someone to talk to instead of keeping stuff to yourself and to see it in a format you can understand was really helpful."

The main educational objective was clear, as expressed by Alex, an Army Veteran in his early 50s:

"You can be approved with your benefits, your service-connection and still work. That message come [through] loud and clear. People want to work or at least give it a try that it give you a whole new thing to think about, definitely plant a seed even if they not feeling up to working now 'oh maybe I can'..."

3.3.2. Wanting information

The most prevalent theme was Veterans' request for additional education about the Compensation and Pension application process, Compensation more generally and opportunities available to Veterans. Many suggested this program be used along with other resources, as emphasized by Ted:

"Having the electronic benefits educational material all online in one location. And maybe have more information on the website like more educational benefits...if someone had questions like if they had additional questions you know how they have a button on top like a live operator button type thing. That might be helpful because I think people might be more apt to you know send a text message you know because more people in this time and age are text-a-holics or if they have a question...maybe an option to email..."

4. Discussion

Overall Veterans gave positive feedback regarding the program. Quantitative ratings indicated general satisfaction with the

website and “Think Aloud” statements were generally consistent with the quantitative results. Participants were engaged by discussion of the Compensation application and employment, and their interactions with the site prompted requests for more information. Veterans were pleased to be offered support during the difficult and uncertain period of applying for Compensation, and although they reported some difficulties with the website, they reported no overall preference for receiving the counseling in person.

Veterans’ responses highlighted the complexity of incorporating MI principles into web-based intervention. While individuals are accustomed to computerized programs asking factual questions, and even opinion surveys, individuals might not expect computers to express emotions such as empathy. Web-based counseling is a developing field and whether human emotions, such as empathy can be appropriately incorporated is currently being debated (Carroll et al., 2000; Spurgeon & Wright, 2010). Some Veterans also expected the counseling to provide more explicit direction and were puzzled by some of the open-ended questions and more paradoxical techniques. Our findings are not apparent in other articles, which simply conclude that participants found MI delivered through the internet to be helpful (Cucciare et al., 2011; Ondersma et al., 2005; Osilla et al., 2012).

We suggest that web-based interventions be evaluated with the same caveats that apply to evaluations of therapists—that a particular therapist style may be appealing to some participants and not others. The two domains of therapist performance traditionally rated, fidelity to a given treatment and competence at delivering that treatment, have been only modestly correlated (Dermers, 2011) and therapist-mimicking websites also vary in their skill/competence in changing behavior.

There is rapidly expanding literature indicating that people interact with informational websites differently than they interact with other media (e.g. books and movies) and differently than they interact with other individuals. In his book on web-site design, Steve Krug suggests that websites include a back button, screens simple enough to not need directions, and tasks that people should not have to think too hard about what they are asked to do (Krug, 2006). Mr. Krug also noted that websites are often read more at a glance and casually, similar to billboards, as opposed to the more in depth reading applied to a contract or printed educational materials. The aforementioned proposals were apparent in Veterans’ preferences for a back button and our observations that Veterans did not read directions on the slides.

We recommend that website developers carefully consider how to balance users’ preference for easy navigation with the need to actively engage them in the counseling process. To facilitate easy navigation, we recommend site designs be consistent across screens. For instance, if there are screens with multiple-choice answers that allow only a single answer, users may be puzzled by a subsequent multiple-choice question that calls for selecting multiple answers.

There is a limit to how personalized a web-based counseling can be and the addition of a live person available for issues raised by the computer/therapist may be helpful. It might not be possible to offer educational material in a manner that addresses all the user’s concerns. Having an email or chat function also would allow Veterans to ask questions for clarification and seek additional education/resources.

The main limitation of this study is that experience within an experimental setting might not generalize to users’ navigation in more naturalistic settings. However, themes from this small sample coincide with previously identified issues concerning website usability. Another limitation is that this is a small study with a convenience sample of 25 Veterans at a single facility; it is possible that these views might not generalize to a broader audience of Veterans.

4.1. Conclusions

The interpretation of the Think-Aloud results was not straightforward because experiences differed across individuals. It was challenging to determine what site changes to recommend, if any, when the site users did not agree Veterans who volunteered less information during the Think Aloud or were less articulate may have had unaddressed issues. The limitations of Think Aloud highlight the value of having quantitative ratings from all the participants to help in drawing conclusions.

Our subjective impression was that the main factor driving the website’s overall positive reception was related to its content. Put simply, the site addresses a problem Veterans want help with—navigating the Compensation application process and deciding what to do next. Veterans in this pilot expressed dissatisfaction with the VA claims process and were eager to describe their experiences, to be heard, and to be acknowledged. They reported feeling lost and felt this program could be an important medium to provide more specific instruction. They believed there was information regarding the Compensation claim process that could be clarified by this website.

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